

Determination of the molecular ...

25340  
S/020/61/138/006/016/019  
B103/B215

ASSOCIATION: Moskovskiy gosudarstvenny universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: February 24, 1961

Card 6/7

TERENT'YEV, A.P.; GRACHEVA, R.A.; VOLKOVA, L.M.

Synthesis of substituted pyrrolidinecarboxylic acids via furan derivatives. Dokl. AN SSSR 140 no.3:610-613 S '61. (MIR 14:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
2. Chlen-korrespondent AN SSSR (for Terent'yev).  
(Pyrrolidinecarboxylic acid) (Furan)

15.8540

29120  
S/020/61/140/005/016/022  
B103/B110

AUTHORS: Terent'yev, A. P., Corresponding Member AS USSR, Rode, V. V.,  
Rukhadze, Ye. G., Vozhennikov, V. M., Zvonkova, Z. V.,  
and Badzhadze, L. I.

TITLE: Electrical conductivity of chelate polymers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 5, 1961, 1093-1095

TEXT: The authors measured the electrical conductivity  $\sigma$  and the activation energy E of several chelate polymers to determine the dependence between their semiconductor properties and their atomic structure. These polymers were mostly synthesized by interaction of equimolecular aqueous solutions of metal acetates and alcoholic solutions of the corresponding tetrafunctional organic compounds. The substances obtained were amorphous, insoluble, and infusible. Their decomposition temperatures were above 250-350°C. More data will be published in the coming issues of the periodical "Vysokomolekulyarnyye soyedineniya". For measuring the electrical conductivity samples in tablet form were used: diameter 5-7 mm, X

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Electrical conductivity of ...

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$\sigma = \text{up to } 10^{-13} \text{ ohm}^{-1} \cdot \text{cm}^{-1}$ . It changes with the temperature according to the exponential function  $\sigma = \sigma_0 \exp(-E/2kT)$ . The results are given in Table 1. Copper-polychelates of structure I had the highest electrical conductivity. Their special electrical properties are in good agreement with the hypothesis on their network structure. The atoms of monovalent copper form linear bonds: S - Cu - S. X-ray studies showed that the distance between the Cu atoms next to each other -Cu-S=C=S-Cu- equals  $5.8 \text{ \AA}$ . Radicals with  $\pi$  bonds of carbon increase the electrical conductivity of copper polymers. Coplanarity of the polymer chains necessary for the

conjugation of the  $\pi$  bonds of the N-C  $\begin{array}{c} \text{S} \\ \diagup \\ \diagdown \\ \text{S} \end{array}$  atoms and phenylene rings. is due to the network structure. In polymers with structure II,  $\sigma$  decreases whereas E increases in the sequence Co, Zn, Ni. The four sulfur atoms are in the same plane as the metal atoms and the N-C  $\begin{array}{c} \text{S} \\ \diagup \\ \diagdown \\ \text{S} \end{array}$  bonds. The Co-S bonds are tetrahedral. The electrical characteristics of 48 semiconductor

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Electrical conductivity of ...

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polymers like those of inorganic semiconductors, widely depended on the short range order. There are 1 table and 9 references: 8 Soviet and 1 non-Soviet. The reference to English-language publication reads as follows: B. Long, P. Markey, P. G. Wheatley, *Acta crystallogr.*, 7, 140 (1954).

ASSOCIATION: *Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova*  
(Moscow State University imeni M. V. Lomonosov).  
*Fiziko-khimicheskiy institut im. L. Ya. Karpova* (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: May 31, 1961

Table 1. Electrical conductivity of chelate polymers.

Legend: (1)  $\sigma_{295}$  ( $\text{ohm}^{-1} \cdot \text{cm}^{-1}$ ); (2) same units as (1); (3) in ev; (4) for polychelates of Ni with R =  $-(\text{CH}_2)_6-$  and  $n,n'-(\text{C}_6\text{H}_4)_2-$ ; (5) of zinc; (6) of cobalt; (7) for cadmium polychelates; (8) for all polychelates;

Card 3/6

POTAPOV, V.M.; GORYAYEV, M.I., akademik; TOISTIKOV, G.A.; TERENT'YEV, A.P.

Rotatory dispersion of cedrane series compounds. Dokl. AN SSSR  
140 no.6:1341-1344 O '61.  
(MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonossova.
2. AN Kazakhskoy SSR (for Goryayev). 3. Chlen-korrespondent AN  
SSSR (for Terent'yev).

(Cedrane)

TERENT'YEV, P.P.; VENKOV, A.V.; BROKHOL'EV, A.A.; TIKHONOV, A.P.

Synthesis and some reactions of pyridylethynylcarbinols.  
Dokl. Akad. Nauk SSSR 141 no.1:110-113 N '61. (KTA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
2. Chleno-korrespondent Akad. SSSR (for A.P.Terent'yev).  
(Methanol)

LUSKINA, B.M.; SYAVSILLO, S.V.; TERENT'YEV, A.P.; TURKEL'TAUB, N.M.

Microdetermination of carbon and hydrogen in organic compounds  
by gas chromatography. Dokl. AN SSSR 141 no.4:869-871 D '61.  
(MIRA 14:11)

1. Chlen-korrespondent AN SSSR (for Terent'yev).  
(Carbon--Analysis) (Hydrogen--Analysis)  
(Gas chromatography)

PAVLOV, Boris Alekseyevich; TERENT'YEV, Aleksandr Petrovich, prof.;  
VASSERBERG, V.E., red.; TOL'YE, M.S., tekhn. red.

[Course in organic chemistry] Kurs organicheskoi khimii. Izd.4.  
stereotipnoe, ispr. Moskva, Goskhimizdat, 1962. 592 p.  
(MIRA 15:10)

(Chemistry, Organic)

32342  
S/190/62/004/001/003/020  
B101/B110

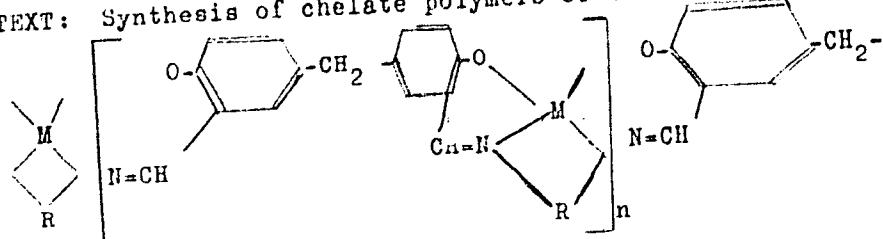
5.3750

AUTHORS: Rode, V. V., Nekrasov, L. I., Terent'yev, A. P.,  
Rukhadze, Ye. G.

TITLE: Studies in the series of chelate polymers. II. Some physicochemical properties of chelate polymers on the basis of 5,5' - methylene-bis(salicylic aldehyde

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 1, 1962, 13-19

TEXT: Synthesis of chelate polymers of the structure



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Studies in the series of ...

(1), R = 2H-; -(CH<sub>2</sub>)<sub>2</sub>-;  
-(CH<sub>2</sub>)<sub>6</sub>-; or o-C<sub>6</sub>H<sub>4</sub>-;  
M = Cu<sup>2+</sup>; Ni<sup>2+</sup>; Fe<sup>2+</sup>;  
Zn<sup>2+</sup>; Co<sup>2+</sup>; Cd<sup>2+</sup>;

was described in Vysokomolek. soyed., 2, 1557, 1960. Now their physical-chemical properties are reported. All chelates are colored, finely dispersed, insoluble powders. Debye patterns showed that they were amorphous. Thermostability was examined by heating in air and measuring of the loss in weight by a continuous Br-HS -20 (VR-NV-20) balance. An intensive destruction took place between 260 and 310°C. Prior to decomposition temperature, loss in weight amounted to 2.5 - 6%. Stability decreased depending on the respective substituent in the sequence  
 $R = 2H^- / o-C_6H_4^- / -(CH_2)_2^- / -(CH_2)_6^-$ . Sequence Ni<sup>2+</sup> > Cd<sup>2+</sup> > Cu<sup>2+</sup> > Zn<sup>2+</sup> > Co<sup>2+</sup> > Fe<sup>2+</sup> was obtained depending on the metal used. The reflector

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spectra of chelates were recorded. Absorption maxima (reflection minima) were close to the values for the corresponding monomers. Luminescence (in a decreasing sequence) was observed in compounds with Zn, Cd, Ni, Co, and Cu. Fe compounds did not luminesce. According to Faraday, magnetic susceptibility was determined at 7000 oe by a torsion balance. Zn and Cd chelates proved to be diamagnetic; Cu, Fe, and Co chelates were paramagnetic, those of nickel with R = 2H- and  $-(CH_2)_6^-$  were paramagnetic

while chelates with R =  $-(CH_2)_2^-$  and o-C<sub>6</sub>H<sub>4</sub>- were diamagnetic.  $\chi_M$  for Zn was -123.1 with R = 2H-, and -153.1 with R =  $-(CH_2)_2^-$ ; -169.3 ( $-(CH_2)_6^-$ ), -194.1 (o-C<sub>6</sub>H<sub>4</sub>-). The values for Cd are as follows: -160.2 ( $-(CH_2)_2^-$ ); -200.7 ( $-(CH_2)_6^-$ ), and -220.0 (o-C<sub>6</sub>H<sub>4</sub>-); for Ni: -158.4 ( $-(CH_2)_2^-$ ), and -178.2 (o-C<sub>6</sub>H<sub>4</sub>-). Magnetic moments of the paramagnetic compounds expressed in  $\mu_B$  have the following values: for Ni 2.51, with R = 2H-; 3.47 with  $-(CH_2)_6^-$ ; for Cu, 1.79 with 2H-; 1.62 with  $-(CH_2)_2^-$ , 1.43 with

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$-(CH_2)_6-$ , and 1.45 with  $o-C_6H_4-$ ; for Fe (in the same sequence of substituents) 5.32, 3.66, 5.09, 3.72; for Co: 4.01, 4.13, 5.25, and 4.23. A plane configuration of nodes is assumed for diamagnetic Ni chelates and a tetrahedral one for paramagnetic chelates. In the presence of the first and third substituents, Fe forms a tetrahedral, in the presence of the two other substituents, however, it forms a plane configuration. The Co chelate with  $R = -(CH_2)_6-$  is tetrahedral.  $\mu_B$  values of the other Co compounds indicate a combination of plane and tetrahedral nodes. An epr resonance was observed in Cu compounds only. The g factor decreased parallel to the  $\mu_B$  value. N. I. Kobozev and V. B. Golubev are thanked for discussion. There are 3 figures, 6 tables, and 4 references: 3 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: A. E. Martell, M. Calvin, Chemistry of the metal chelate compounds, New York, 1953.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. lomonosova

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Studies in the series of ...

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S/190/62/004/001/003/020  
B101/B110

(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: January 12, 1961

Card 5/5

32351  
 S/190/62/004/001/013/020  
 B110/B101

5.3750

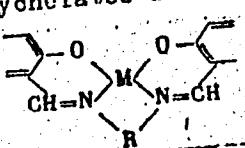
AUTHORS: Terent'yev, A. P., Rode, V. V., Rukhadze, Ye. G.

TITLE: Studies in the series of chelate polymers. III. Some polymers of 5,5'-methylene-bis-salicylic aldehyde with metals

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 1, 1962, 91 - 94

TEXT: In preceding papers (Vysokomolek. soyed., 2, 1557, 1960, ibid., 4, 13, 1961) the authors had stated that metals with polymers form bis-(azaoxa)-polychelates having the following chelate link (2(0, N)-M): ...

(I).

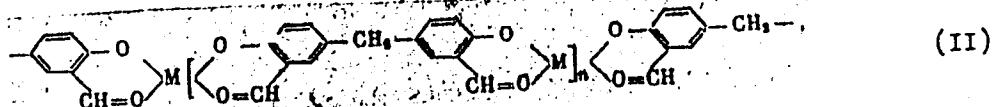


For examining the properties of polymers with 2(0, 0)-M links, bis-dioxa-polychelates ...

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B110/B101

Studies in the series of ...



were used, where  $M = Cu^{2+}$ ,  $Ni^{2+}$ ,  $Fe^{2+}$ , and  $Co^{2+}$ . Equimolecular quantities of an alcoholic solution of 5,5'-methylene-bis-salicylic aldehyde with aqueous solutions of metal acetates polymerized at room temperature. The polymers unsoluble in alcohol, acetone, ether, dimethyl formamide, and tetrahydrofuran were washed out with water and alcohol, and thus freed from non-reacted metal and aldehyde. After vacuum drying, they represent fine-disperse, colored powders the Debye patterns of which showed amorphism. The unmeltable polymers decomposed at  $> 250^{\circ}C$ . The curves of heat resistance obtained by photographic recording of the losses in weight by means of the recording balance BP-HB-20 (VR-NV-20) showed an intensive destruction at  $260 - 300^{\circ}C$  (losses in weight at decomposition temperature - 4 - 6%). At  $350 - 400^{\circ}C$ , quantitative formation of metal oxide takes place. As to heat resistance of bis-dioxa-polychelates, the order

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Studies in the series of ...

$\text{Ni}^{2+} > \text{Cu}^{2+} > \text{Co}^{2+} > \text{Fe}^{2+}$  was found. In this respect, the polymers produced correspond to those with 2(N, O)-M links. The reflection spectra showed maxima close to the maxima of the monomers and the 2(N, O)-M chelates.

The  $\text{Ni}^{2+}$  and  $\text{Co}^{2+}$  chelates of structure II showed weak luminescence.

The magnetic moments,  $\mu_B$ , determined at 7000 oersteds were 1.72 for compounds of  $\text{Cu}^{2+}$ , 2.80 for  $\text{Ni}^{2+}$ , 4.79 for  $\text{Fe}^{2+}$ , 3.84 for  $\text{Co}^{2+}$ . The paramagnetism of poly-5,5'-methylene-bis-salicylic aldehyde of Ni is due to the presence of two unpaired electrons in the nickel ion and, thus, to the tetrahedral structure of the chelate link. The  $\mu_B$  value of the Fe

compound corresponds to four unpaired electrons in the Fe ion and, thus, also to tetrahedral structure. The magnetic moment of Co polychelate, somewhat lower as compared to the tetrahedral cobalt complexes, is probably due to the simultaneous presence of planar chelate links. The magnetic moment of the Cu compound corresponds to an unpaired electron. Electron paramagnetic resonance could be only found in the Cu compound: width of peak = 210.0 oersteds, number of paramagnetic particles per

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Studies in the series of ...

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B110/B101

$g = 2.71 \cdot 10^{21}$ , g factor = 2.117. There are 2 figures, 2 tables, and 3 references; 2 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: A. E. Martell, M. Calvin, Chemistry of the metal chelate compounds, N. Y., 1953.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: February 1, 1961

✓

Card 4/4

X-240  
S/190/62/004/004/012/019  
B117/B138

15.860

AUTHORS:

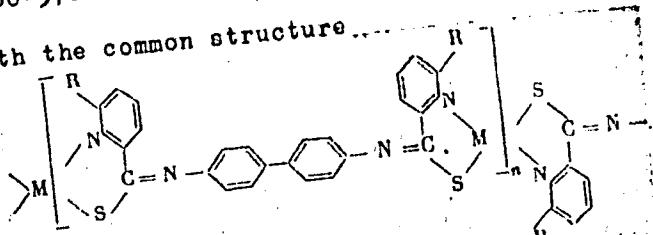
Terent'ev, A. P., Rukhadze, Ye. G., Rode, V. V., Panova,  
G. V.

TITLE:

Investigations in chelate polymers. IV. Polymers of  
4,4'-bis-( $\alpha$ -thioalkylpyridineamido)diphenylene with metals  
Vysokomolekulyarnyye soyedineniya, v. 4, no. 4, 1962,  
566-570

PERIODICAL:

TEXT: Polymers with the common structure.....



R = H- and  $\text{CH}_3^-$ ; M =  $\text{Cu}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Co}^{2+}$  were studied. For these compounds X

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Investigations in chelate polymers...

pounds, the chelate node of which can be written as  $2(N,S)-M$ , the designation bis-(azathia) polychelate was proposed. From  $4,4'$ -bis( $\alpha$ -thiopicoline-amido)diphenyl ( $C_{24}H_{18}N_2S_2$ , needle-shaped orange crystals, melting point  $238^\circ C$ , yield 53%) and  $4,4'$ -bis( $\chi$ -thio-2,6-lutidineamido)diphenyl ( $C_{26}H_{22}N_2H_2$ , orange red crystals, melting point  $223^\circ C$ , yield 22%, described for the first time), polychelate polymers were produced having qualitative yield with bivalent metals at room temperature. Using Debye-Scherrer photographs, the structure of these finely dispersed colored powders was found to be amorphous. Investigation of the heat resistance of bis-(azathia)polychelates showed that their decomposition sets in at about  $200^\circ C$ . Total destruction under formation of metal oxides, however, began only after 3 hr heating at  $800-1000^\circ C$ . Nickel and zinc polychelates proved to be more heat-resistant than polymers with copper and cobalt ions. Polychelates with the structure mentioned are also chemically stable. Investigation of their spectra showed that the absorption maxima of bis-(azathia)polychelates are somewhat displaced towards the long-wave range as compared with bis-(azaoxa)- and bis-disoxapolychelates, and that only polymers with zinc ions show weak luminescence. Magnetochemical investigations gave some information on the

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Investigations in chelate polymers...

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structure of chelate nodes of the polymers produced. Polychelates with zinc content and those without unpaired electrons in the molecule proved to be diamagnetic as expected. Purity and structure of these polymers were confirmed by means of experimentally determined molar magnetic susceptibilities and those calculated from Pascal constants. For polymers with unpaired electrons in the molecule (Ni-, Co-, Cu polychelates), tetrahedral structure of the chelate node was assumed in agreement with published data. There are 2 figures and 2 tables. The two English-language references are: K. V. Martin, J. Amer. Chem. Soc., 80, 233, 1958; A. E. Martell, M. Calvin, Chemistry of the metal chelate compounds, New York, 1953.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

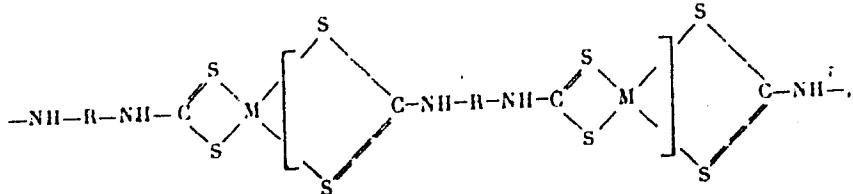
SUBMITTED: March 16, 1961

Card 3/3

38272  
S/190/62/004/006/005/026  
B101/B110

15 3/5 .  
AUTHORS: Terent'yev, A. P., Rukhadze, Ye. G., Rode, V. V.  
TITLE: Studies of chelate polymers. V. Chelate polymers of bis-dithiocarbamic acids and metals  
PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 6, 1962,  
821-827

TEXT: Chelate polymers of ethylene, hexamethylene, p-phenylene, and p,p'-diphenylene-bis-dithiocarbamic acids with  $Ni^{2+}$ ,  $Zn^{2+}$ ,  $Co^{2+}$ , and  $Cu^+$  were synthesized by mixing the aqueous solution of the sodium bis-dithiocarbamate with the aqueous solution of the metal acetate. The structure



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Studies of chelate polymers. ...

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is assumed for the chelates of Ni, Zn, and Co, where  
 $R = -(CH_2)_2^-$ ;  $-(CH_2)_6^-$ ;  $p-C_6H_4^-$ , or  $p,p'-(C_6H_4)_2^-$ ;  $M = Ni^{2+}$ ,  $Zn^{2+}$ ,  $Co^{2+}$ .

The  $Cu^{2+}$  reacts with the sodium bis-dithiocarbamates, sulfur and carbonyl sulfide, being liberated and  $Cu^{2+}$  being reduced to  $Cu^+$ . A copper-containing polymer with network structure is formed. The chelates are finely disperse, colored powders, poorly soluble and not fusible. Their properties are little affected by the nature of the R radical. The poor solubility, along with the molecular weight of chelates as determined by

reaction of  $Br^{82}$ -tagged metal bromides with sodium dithiocarbamates (53,000-67,000, polymerization coefficient 160-215), led to the conclusion that the chelates of Ni, Zn, and Co with ethylene and hexamethylene-bis-dithiocarbamate can contain only very small amounts of cyclic structure

HN-C(S)(S)-M-C(=S)-NH. There are 3 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: March 31, 1951  
Card 2/2

TERENT'YEV, A.P.; RODE, V.V.; RUKHADZE, Ye.G.

Chelate polymers. Part 6: Some physicochemical properties  
of chelate polymers of bis-dithiocarbamic acids with metals.  
Vysokom.sosed. 4 no.7:1005-1010 Jl '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
(Chelates)  
(Carbamic acid)

TERENT'YEV, A.P.; LUSKINA, B.M.

Elemental organic analysis by the "wet combustion" method. Report  
No.5: Determination of nitrogen in pyridine bases. Zhur.anal.khim.  
17 no.2:227-230 Mr-Äp '62. (MIRA 15:4)

1. M.V.Lomonosov Moscow State University.  
(Nitrogen--Analysis) (Pyridine)

S/075/62/017/005/007/007  
I033/I233

AUTHORS: Luskin<sup>n</sup>, B.M., Terent'yev A.P., and Syavtsillo, S.V.

TITLE: Elemental-organic analysis by the "wet-combustion" method. Communication 6: Determination of phosphorus and silicon in organic compounds

PERIODICAL: Zhurnal analiticheskoy khimii, v.17, no. 5, 1962,  
639-641

TEXT: A new method of analysis of silicon-phosphorus organic compounds by heating with  $K_2S_2O_8$  or  $H_2O_2$  in concentrated  $H_2SO_4$  is described. The precipitated silicic acid is separated, redissolved and determined by titration. In the  $K_2S_2O_8$  process the phosphate from the filtrate is coprecipitated with  $Fe(OH)_3$  ✓

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I033/I233

Elemental-organic analysis...

in order to eliminate the oxidizing agent. The precipitate is dissolved in 8 N HCl, washings are added and solution is diluted to the desired volume. In the  $H_2O_2$  process, the excess of oxidizing agent is destroyed by 0.1 N  $KMnO_4$  and the solution is again diluted to the desired volume. In both cases phosphate is then determined photometrically as a phosphoromolybdate blue, after previous reduction of Fe(III) by  $Na_2SO_3$ . The determination takes 2 hours. The error does not exceed 4%. There is 1 table.

✓

SUBMITTED: July 25, 1961

Card 2/2

TERENT'YEV, A.P.; OBTEMERANSKAYA, S.I.; BUZIANOVA, M.M.; VLASOVA, T.Ye.

Use of hexamethylenimine in the quantitative determination of  
carboxyl and sulfonyl halides. Zhur.anal.khim. 17 no.7:900-  
902 O '62.  
(MIRA 15:12)

1. Lomonosov Moscow State University.  
(Halides) (Anhydrides) (Hexamethylenimine)

TERENT'YEV, A.P.; VOLODINA, M.A.; VOLOD'KIN, A.A.; MISHINA, V.G.;  
KOMISSAROV, I.V.

Aminopropanediol derivatives. Part 2: Compounds of the type 1,3-[R'<sup>1</sup>R"<sup>2</sup>NCH<sub>2</sub>CH(OH)CH<sub>2</sub>O]<sub>2</sub>C<sub>6</sub>H<sub>4</sub>. Zhur. ob. khim. 32 no.1:174-177 Ja '62.

(Resorcinol)

(Amines)

(MIRA 15:2)

TERENT'YEV, A.P.; GE BAN-LUN<sup>1</sup> [Ko Pang-lun]; PREOBRAZHENSKAYA, M.N.

Introduction of substituents into the benzene ring of indole. Part 7:  
Sulfamides of the indole and indoline series. Zhur. ob. khim. 32  
no.1:177-181 Ja '62. (MIRA 15:2)  
(Indole) (Sulfamide) (Indoline)

POTAPOV, V.M.; DEM'YANOVICH, V.M.; LAZUTINA, L.I.; TERENT'YEV, A.P.

Stereochemical studies. Part 13: Rotatory dispersion of the derivatives of  $\alpha$ - $\beta$ -tolylethylamine and 2-aminobutane. Zhur.-ob.khim. 32 no.4:1187-1191 Ap '62. (MIRA 15:4)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Amines) (Molecular rotation)

TERENT'YEV, A.P.; GE BAN-LUN' [Ko Pang-lun]; PREOBRAZHENSKAYA, M.N.

Role of substituents in the benzene ring of indole. Part 8:  
1 Methylindole-5-aldehyde. Zhur. obshch. 32 no.4:1335-1336  
Ap '62. (MIRA 15:4)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Indole) (Substitution (Chemistry))

VINOGRADOVA, Ye.V.; DAUT, Kh.; KOST, A.N.; TERENT'YEV, A.P.

Synthesis on the basis of vinylpyridine. Part 4: Synthesis of  
pyridylethylindoles. Zhur. ob. khim. 32 no. 5:1550-1556 My '62.  
(MIRA 15:5)  
(Indole)

VOLODINA, M.A.; MISHINA, V.G.; TERENT'YEV, A.P.; KIRYUSHKINA, G.V.

Synthesis and properties of pyrrolidines and pyrroles. Part 9:  
Cyclopentano- and cyclohexanopyrroles. Zhur. ob. khim. 32 no.6:1922-  
1925 Je '62. (MIRA 15:6)  
(Pyrrole) (Cyclohexane) (Cyclopentane)

TERENT'YEV, A.P.; VOLODINA, M.A.; KIRYUSHKINA, G.V.

Synthesis and properties of pyrrolidines and pyrroles. Part 11:  
Cyclopentano-2,3-pyrrolidines. Zhur.ob.khim. 32 no.6:1925-1927  
Je '62.

(Pyrrolidine) (Cyclopentane) (MIRA 15:6)

GRINEV, A.N.; YERMAKOVA, V.N.; TERENT'YEV, A.P.

Quinones. Part 38: New condensation product of p-benzoquinone with  
N-methyl- $\beta$ -aminocrotonic ester. Zhur. ob. khim. 32 no.6:1948-1951  
Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
(Benzoquinone) (Crotonic acid)

GRINEV, A.N.; KHUN' SHOMI-TSZYUN'; TERENT'YEV, A.P.

Synthesis of derivatives of naphthofuran and benzindole. Zhur ob.-  
khim. 32 no.6:1951-1957 Je '62.  
(MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
(Naphthofuran) (Benzindole)

KOST, A.N.; VINOGRADOVA, Ye.V.; DAUT, Kh.; TERENCEV, A.P.

Alkaloids and alkaloidlike structures. Part 5: Functional derivatives  
in the pyridylethylindole series. Zhur. ob. khim. 32 no.6. 2050-2056  
Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
(Indole) (Alkaloids)

TERENT'YEV, A.P.; GRACHEVA, R.A.

Synthesis of substituted acids via the derivatives of furan.  
Part 6: Preparation of  $\beta$ -amino acids. Zhur. ob. khim. 32  
no.7:2231-2232 Jl '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet.  
(Amino acids) (Furan)

KOST, A.N.; GOLUBEVA, G.A.; TERENT'YEV, A.P.; GRANDERG, I.I.

Splitting of the pyrazoline cycle with breaking of the nitrogen-nitrogen bond. Dokl.AN SSSR 144 no.2:359-362 My '62.

(MIRA 15:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
2. Chlen-korrespondent AN SSSR (for Terent'yev).

(Pyrazoline)

VINOGRADOVA, Ye.V.; MITROPOL'SKAYA, V.N.; KOST, A.N.; TERENT'YEV, A.P.

Synthesis of pyridylethyloxindole. Dokl. AN SSSR 144 no.5:  
1046-1049 Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
2. Chlen-korrespondent AN SSSR (for Terent'yev).  
(Oxindole) (Pyridine)

43821

8/020/62/147/005/019/032  
B106/B186

15 1542

AUTHORS: Terent'yev, A. P., Corresponding Member AS USSR, Rukhadze,  
Ye. G., Vozzhennikov, V. M., Zvonkova, Z. V., Oboladze, N. S.,  
Mochalina, I. G.

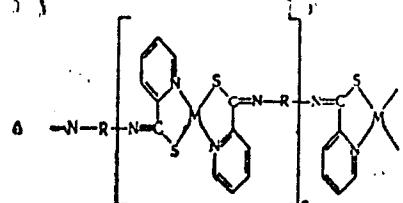
TITLE: Electrical conductivity and activation energy of chelate  
compounds of the dithiocarbamates and thioamides of pyridine  
derivatives

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 5, 1962, 1094-1097

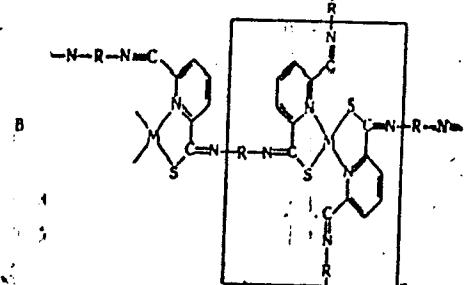
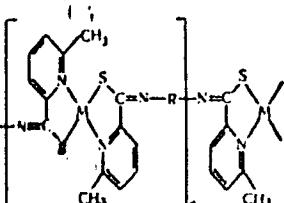
TEXT: The temperature dependence of the electrical conductivity  $\sigma$  of  
chelate polymers of the following structures A, B, and C has been deter-  
mined:

Card 1/6

Electrical conductivity and . . .



S/020/62/147/005/019/032  
B106/B186



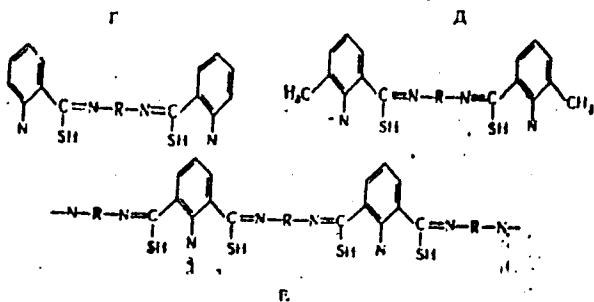
Card 2/6

Electrical conductivity and...

8/020/62/147/005/019/032  
B106/B186

$M = Cu, Co, Zn; R = -\text{C}_6\text{H}_4-\text{C}_6\text{H}_4-$  (1),  $-\text{CH}_3-\text{C}_6\text{H}_4-\text{CH}_3$  (2),  $-\text{OCH}_3-\text{C}_6\text{H}_4-\text{OCH}_3$  (3).

For comparison, the compounds Г, Д, and the polymer Е (initial products in the synthesis of the above chelate polymers), and the compounds Ж and З ( $M = Cu, Co, Zn$ ) (monomers of polychelates investigated earlier (Ref. 2; V. M. Vozhennikov et al, DAN, 143, 5 (1962)) have been studied analogously:

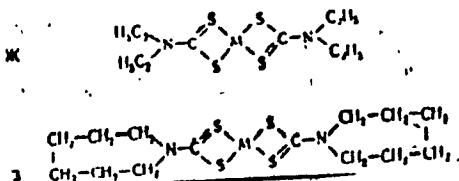


Card 3/6

Electrical conductivity and...

S/020/62/147/005/019/032

B106/B186



Since the compounds investigated are insulators at room temperature, the values of the electrical conductivity have been determined between 330 and 600°K. The values of the activation energy E have been calculated from the temperature dependence of  $\sigma$  (ascent of the straight line in diagrams ( $\log \sigma, 1/T$ )). Table 1 shows the results. In agreement with the data of Ref. 2, the electrical conductivity depends considerably on the nature of the metal ( $Zn < Cu > Ni > Co$ ). The stability of the complex compounds and the electron affinity of the metals  $M$  change in the same order. The fact that the nature of the radicals bound to nitrogen atoms in the compounds  $\mathcal{X}$  and  $3$  has practically no effect on the values of  $\sigma$  and  $E$  shows that these two quantities are mainly determined by the nature of the chemical bonds and

Card 4/6

Electrical conductivity and...

S/020/62/147/005/019/032  
B106/B186

not by the packing of molecules in the crystal. Activation energies between 1.2 and 1.6 ev were found for the 30 compounds with the grouping M...S-C-N< investigated in Ref. 2 and in the present paper. An activation energy of this order has also been found for CuSCN, the simplest semiconductor polymer with the grouping S-C=N-. There are 2 figures and 1 table.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpova); Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 22, 1962

Card 5/6

KOST, A. N.; GRANBERG, G. A.; TEGENTYEV, A. P.

"Isomerization and Rearrangements of Substituted Hydrazones and Pyrazolines."  
Moscow State University

19th International Congress of Pure and Applied Chemistry  
*London, 10-17 Jul 1963*

LUSKINA, B.M.; TERENT'YEV, A.P.; SYAVTSILLO, S.V.

Analysis of organosilicon compounds containing various elements  
using the wet oxidation method. Trudy Kom.anal.khim 13:3-7 '63.  
(MIFI 16:5)  
(Silicon organic compounds)

TERENT'YEV, A.P.; LUSKINA, B.M.

Determination of various forms of nitrogen in organic compounds based on the method of wet oxidation by a chromium mixture. Trudy Kom.anal.khim. 13:20-23 '63.

(MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
(Nitrogen—Analysis) (Pyridine)

TERENT'YEV, A.P.; TSUKERMAN, A.M.

New method of identification of organic compounds by their  
fusion point. Trudy Kom.anal.khim. 13:54-58 '63. (MLA 16:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
(Organic compounds) (Melting points)

3.017/63/005/006/0637/0841

AUTHOR: Tarant'yev, A. P.; Bukradine, Ye. G.; Kochalina, I. G.; Panova, G. V.

TITLE: Studies on high-molecular pyridine derivatives. 1. Polyamides on the basis of 2,6-lutidine

SOURCE: Vy'sokomolekulyarnye soyedineniya, v. 5, no. 6, 1963, 837-841

TOPIC TAGS: pyridine derivative, polyamide, 2,6-lutidine, interfacial polycondensation

ABSTRACT: To achieve the synthesis of desired polyamides a solution of the di-chloride of pyridine-2,6-dicarboxylic acid] in benzene was reacted by interfacial polycondensation with an alkaline or acid aqueous solution of a number of aliphatic and aromatic diamines. These were ethylenediamine, tetramethylenediamine,  $\alpha$ -phenylenediamine, benzidine,  $\alpha$ -tolidine, 4,4'-diaminodiphenylmethane, 4,4'-diaminobiphenol and 4,4'-diaminodiphenylsulphure. The resulting polyamides were white or slightly colored substances, almost insoluble in organic solvents. The lengthening of the aliphatic chain lowered the melting point of the polyamides from 292-300°C to 235-240°C and slightly increased their solubility and viscosity. The presence of aromatic rings in the macromolecules rendered them harder and more thermoresistant

Card 1/2

L 13520-63

ACCESSION NR: AP3001154

and lowered their solubility. The obtained polyamides were outstanding in their resistance to concentrated hydrochloric acid, sodium hydroxide, bromine, and hydrogen peroxide. X-ray examination revealed their amorphous structure. Orig. art.  
has: 1 formula and 2 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow  
State University)

SUBMITTED: 20Nov61

DATE ACQ: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF Sov: 010

OTHER: 002

Card 2/2

L1521-63 EWP(j)/EMT(m)/EMR ADP PC-4 RM  
ACCESSION NR: AP3001155 S/0190/63/005/006/08/2/0845

AUTHORS: Terent'yev, A. P.; Rukhadze, Ye. I.; Senova, G. I.; Kochalina, I. G.

TITLE: Studies on high-molecular pyridine derivatives. 2. Polyamides and polythioamides on the basis of certain alkylpyridines<sup>7</sup>

SOURCE: Vy'sokomolekulyarnye soyedineniya, v. 5, no. 6, 1963, 842-845

TOPIC TAGS: pyridine, polyamide, polythioamide, alkylpyridine, tautomerism

ABSTRACT: The present investigation is a continuation of the earlier work by the authors on polyamides on the basis of 2,6-lutidine.<sup>1</sup> Since the objective was the synthesis of thioamides and polythioamides, this study also included alpha-picoline. These compounds were obtained by prolonged heating of the corresponding alkylpyridine and of diamines (benzidine, o-tolidine, and o-dianizidine) with an excess of sulfur at 160-200°C. Where 2,6-lutidine constituted the base, it was necessary to react it with a double amount of diamine and a tenfold quantity of sulfur in order to obtain polythioamides, while at a 4:1:10 ratio only one methyl group of 2,6-lutidine entered into the reaction. These synthesized polythioamides are colored powdery substances, some of which show an amorphous structure on a Debyogram, while infrared spectra revealed the presence of a thioureide group. It is concluded that

Cord 1/8:2

L 13521-63

ACCESSION NR: AP3001155

the thicamides and polythicamides may exist in two tautomeric forms. Orig. art.  
has: 4 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow)  
State University)

SUBMITTED: 20Nov61

DATE ACQ: 01Jul63

ENCL: 01

SUB CODE: 00

NO REF Sov: 006

OTHER: 002

Card 2/2

TERENT'YEV, A.P.; RODE, V.V.; RUKHADZE, Ye.G.

Chelate polymers. Part 7: Chelate polymers based on  
2,6-diacetylpyridine. Vysokom.sosed. 5 no.11:1658-1665 N '63.  
1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
(MIRA 17:1)

TERENT'IEV, A.P.; RODE, V.V.; RUKHADZE, Ye.G.

Chelate polymers. Part 8: Some aspects of the structure of chelate polymers. Vysokom.soced. 5 no.11:1666-1670 N '63. (MIRA 17:1)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova!

VINOGRADOVA, Ye.V.; GRINEV, A.N.; DANUSEVICH, I.K.; DZIK, M.P.; DUBOVIK, B.V.; ZAKHAREVSKIY, A.S.; IL'YUCHENOK, T.Yu.; KOST, A.N.; MARTINOVICH, G.I.; MIKLEVICH, A.V.; PIL'TIYENKO, L.F.; RACHKOVSKAYA, I.V.; REUT, N.A.; TALAPIN, V.I.; TAMARINA, N.Z.; TERENT'YEV, A.P.; SHADURSKIY, K.S.

Research on pharmacological agents with prolonged hypotensive action. Vest. AMN SSSR 18 no.1:69-86 '63. (MIRA 16:2)

1. Laboratoriya spetsial'nogo organicheskogo sinteza khimicheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta imeni Lomonosova i kafedra farmakologii Minskogo meditsinskogo instituta.  
(HYPOTENSION) (INDOLE)

POTAPOV, V.M.; TERENT'YEV, A.P.; AVARYAN, V.G.

Spectropolarimetric analysis. Report No. 1: Quantitative determination of benzaldehyde. Zhur. anal. khim. 18 no.1: 116-120 Ja '63. (MIRA 16:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
(Benzaldehyde) (Spectrum analysis)

POTAPOV, V.M.; MOISEYeva, G.P.; TERENT'YEV, A.P.

Spectropolarimetric analysis. Report No.2: Quantitative determination of furfural and salicylaldehyde. Zhur. anal. khim. 12 no.2:275-277 F '63.

(MIRA 17:10)

S/075/63/018/003/005/006  
E071/E436

AUTHORS: Terent'ev, A.P., Litvin, K.I., Rukhadze, Ye.G.

TITLE: Preparation of pure precipitates by reagents forming  
*in situ*

PERIODICAL: Zhurnal analiticheskoy khimii, v.18, no.3, 1963, 406-407

TEXT: The possibility of using the above method was demonstrated by precipitation of barium sulfate in the presence of a large excess of calcium (1 to 10) from dimethylsulfate-glycerine solutions. Radioactive Ca<sup>45</sup> was used for the experiments. The coprecipitation of calcium was negligible (only 0.9 to 1.0%). There is 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im.  
M.V.Lomonosova (Moscow State University imeni  
M.V.Lomonosov)

SUBMITTED: June 9, 1962

Card 1/1

POTAPOV, V.M.; MOISEYeva, G.P.; TERENT'YEV, A.P.

Optically active reagents for the carbonyl group. Vest. Mesk. un. Ser.  
2: Khim. 18 no. 4:28-29 Jl-Ag '63. (MIRA 16:9)

1. Kafedra organicheskoy khimii Meskovskogo universiteta.  
(Carbonyl group) (Spectropolarimetry)

TERENT'YEV, A.P.; LARIKOVA, G.G.; BONDAREVSKAYA, Ye.A.

Use of aluminum lithium hydride in analysis. Report No.1:  
Determination of active hydrogen in organic substances in ethyl  
ether solutions. Zhur.anal.khim. 18 no.4:514-519 Ap '63.  
(MIRA 16:6)

1. M.V.Lomonosov Moscow State University.  
(Hydrogen—Analysis) (Organic compounds)  
(Aluminum lithium hydride)

TERENT'YEV, A.P.; LUSKINA, B.M.; SYAVTSILLO, S.V.

Elementary organic analysis by the "wet combustion" method.  
Report No.7: Determination of carbon of organic substances  
in waste waters of organosilicon industries. Zhur. anal.  
khim. 18 no.5:639-643 My'63. (MIRA 17:2)

TERENT'YEV, A.P.; TUBINA, I.S.

Diazometric method of analysis. Report No.2: Determination of phenols. Zhur.anal.khim. 18 no.7:880-883 J1 '63. MIRA 16:11)

1. M.V.Lomonosov Moscow State University and S. Ordzhonikidze All-Union Scientific-Research Chemico-Pharmaceutical Institute, Moscow.

POTAFOV, V.M.; LAZUTINA, L.I.; TERENT'YEV, A.P.

Spectropolarimetric analysis. Report No.3: Determination of isomeric  
nitrobenzaldehydes in their mixtures. Zhur.anal.khim. 13 no.3:  
1003-1006 Ag '63. (MIRA 16:12)

1. Moscow State University.

RODE, V.V.; RUKHADZE, Ye.G.; TERENT'YEV, A.P.

Chelate polymers. Usp.khim 32 no.12:1488-1524 D '63. (MIRA 17:2)

1. Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta  
imeni Lomonosova.

TERENT'YEV, A.P.; GRACHEVA, R.A.; PREOBRAZHENSKAYA, N.N.; VOLKOVA, L.M.

Synthesis of furan analogs of tobacco alkaloids based on chalcones.  
Zhur. ob. khim. 33 no.12:4006-4011 D '63. (MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

TERENT'YEV, A.P.; GRACHEVA, R.A.; MIKHAYLOVA, N.M.

Preparation of acids via furan derivatives. Part 7: Synthesis  
of benzoylasparagine and benzoylisocasparagine. Zhur. ob. khim.  
33 no. 2: 581-583 F '63. (MIRA 16:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.  
(Asparagine) (Succinamic acid) (Furan)

POTAPOV, V.M.; TROFIMOV, F.A.; TERENT'YEV, A.P.

Stereochemical investigations. Part 14: Optically active  
aryl- $\beta$ -aminovinyl ketones and their tautomerism. Zhur. ob. khim.  
33 no.3:853-859 Mr '63. (MIRA 16:3)  
(Ketones—Optical properties)  
(Tautomerism)

VINOGRADOVA, Ye.V.; KOST, A.N.; MITROPOL'SKAYA, V.N.;  
TERENT'YEV, A.P.

Syntheses based on vinylpyridines. Part 8: Introduction of  
functional substituents into pyridylethylloxindoles. Zhur. ob.  
khim. 33 no.5:1556-1561 My '63. (MIRA 16:6)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
(Pyridine) (Oxindole)

POTAPOV, V.M.; DEM'YANOVICH, V.M.; TERENT'IEV, A.P.

Stereochemical studies. Part 15: Spectropolarimetric study of  
 $\alpha$ -benzylethylamine and its derivatives. Zhur.ob.khim. 33  
no.7:2372-2376 J1 '63. (MIRA 16:8)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Ethylamine--Optical properties) (Spectrometry) (Stereochemistry)

POTAPOV, V.M.; TERENT'YEV, A.P.; PREOHRAZHENSKAYA, M.N.; SUVOROV, N.N.

Stereochemical studies. Part 16: Optically active  $\beta$ -(3-indolyl) isopropylamine. Zhur. ob. khim. 33 no.8:2702-2705 Ag '63.  
(MIRA 16:11)

VOLODINA, M.N.; MISHINA, V.G.; PRONINA, Ye.A.; TERENT'YEV, A.P.

Synthesis and properties of pyrrolidines and pyrroles. Part  
12: 5-Phenylcyclopentane-2,3-pyrroles and 5-phenylcyclohexane-  
2,3-pyrroles. Zhur. ob. khim. 33 no.10:3295-3297 O '63.  
(MIRA 16:11)  
1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

s/020/63/148/006/017/023  
B117/B186

AUTHORS: Terent'yev, A. P., Corresponding Member AS USSR,  
Turkel'taub, A. M., Bondarevskaya, Ye. A., Domochkina, L. A.

TITLE: Gas-chromatographic determination of nitrogen and oxygen in  
organic compounds

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 6, 1963, 1316 - 1319

TEXT: A method was devised for simultaneously determining nitrogen and oxygen, the end products ( $N_2$  and CO) being analyzed by gas adsorption chromatography. Pyrolysis is carried out in an evacuated quartz tube, in a stationary helium atmosphere. "Nickelized" carbon black (Ni:C = 1:1) is used as reducing agent; thus the pyrolysis can be carried out at  $900^{\circ}\text{C}$ . The chromatograms of the substances consisting of C,H,O,N show one peak for CO and  $N_2$ . The chromatograms of the substances composed of C,H,N have only one peak for  $N_2$  and a straight line instead of the CO peak which is observed in substances consisting of C,H,O instead of the  $N_2$  peak. It was shown that by the gas adsorption analysis pyrolysis products are determined more

Card 1/3

S/020/63/148/006/017/023  
B117/B186

Gas-chromatographic determination...

rapidly than usual and that the separation of the individual classes of organic substances is also easier to control. Ideal conditions for the separation of individual components were obtained with an artificial gas mixture of H, O, N, CH<sub>4</sub>, CO and CO<sub>2</sub>. The separation column was 60 mm long, 4 mm in diameter; the sorbent used was molecular sieves of type 5A (5A) crushed to a size of 0.5 - 1.0 mm, and dried in vacuo at 300°C for 2 hrs; the carrier gas was helium (flow rate 50 ml/min). Under these conditions H, O, CH<sub>4</sub>, CO could be separated at room temperature. The CO<sub>2</sub>, adsorbed at the entrance of the column, could be forced out either by helium flowing back or by heating the column to 300°C and by draining through a side tap. The conditions described above were applied to the analysis of vacuum pyrolysis gases used in direct determination of O and N in organic substances. The O and N contents were determined from the surface bounded by the corresponding peak in the chromatogram, which was compared with the calibration curves. A linear dependence was observed between the surfaces bounded by the CO or N<sub>2</sub> peak and the O and N content of the batches.

A number of organic substances with C, H, O and N content were analyzed by this method. There are 3 figures and 1 table.

Card 2/3

S/020/63/148/006/017/023  
B117/B186

Gas-chromatographic determination...

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: September 1, 1962

Card 3/3

TERENT'YEV, A.P.; GRACHEVA, R.A.; TITOVA, L.F.; KAZBULATOVA, N.A.

Spectropolarimetric study of Schiff's bases in the furan series.  
Dokl. AN SSSR 152 no.6:1373-1375 O '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
2. Chlen-korrespondent AN SSSR (for Terent'yev).

TERENT'YEV, Aleksandr Petrovich; YANOVSKAYA, Lyudmila Aleksandrovna;  
RABINOVICH, F.V., red.

[Chemical literature and its use] Khimicheskaja literatura  
i pol'zovanie eiu. Moskva, Khimiia, 1964. 318 p.  
(MIRA 17:8)

TERENT'YEV, Aleksandr Petrovich; POTAPOV, Viktor Mikhaylovich;  
KOLOSOV, M.N., st. nauchn. sotr., retsenzent; VOL'PIN,  
M.Ye., doktor khim. nauk, red.

[Principles of stereochemistry] Osnovy stereokhimii. Mo-  
skva, Khimiia, 1964. 687 p. (MIRA 17:12)

ACCESSION NR: AP4012194

S/0191/64/000/002/0062/0063

AUTHORS: Luskina, B. M.; Terent'yev, A. P.; Syavtsillo, S. V.

TITLE: Determination of chlorine combined with silicon in organo chlorsilanes

SOURCE: Plasticheskiye massy#, no. 2, 1964, 62-63

TOPIC TAGS: chlorine, silicon, organo chlorsilane, saponification, diethylene glycol

ABSTRACT: Methods for determining chlorine combined with silicon in organo chlorsilanes are based on its saponification by water or aqueous solutions of alkali and determining the chlorine ion or the resulting hydrochloric acid. To select optimum hydrolyzing conditions, ethyl, isopropyl and  $\alpha$ -butyl alcohols, ethylene glycol, diethylene glycol and glycerin were tested. Diethylene glycol is recommended since it is nonflammable, easily available and does not have an unpleasant odor. Hydrolysis should be conducted in a medium of diethylene glycol and water (1:1) and determination of resulting

Card 1/2

ACCESSION NR: AP4012194

hydrochloric acid should be made by the neutralization method.  
Accuracy of the analysis is  $\pm 0.1\text{-}0.3\%$ . Orig. art. has: 1 Table.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: CH

NR REF Sov: 004

OTHER: 003

Card 2/2

ACCESSION NR: AP4042188

S/0190/64/006/007/1267/1271

AUTHOR: Terent'yev, A. P.; Mochalina, I. G.; Rukhadze, Ye. G.;  
Povolotskaya, Ye. N.

TITLE: Study in the series of polymeric chelates. X. Some  
physicochemical studies of polymeric chelates based on thio amide  
and poly(thio amide) derivatives of pyridine

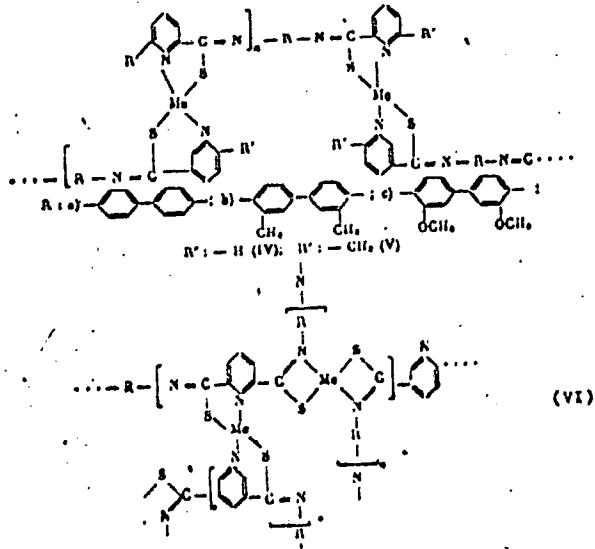
SOURCE: Vy\*okomolekulyarny\*ye soyedineniya, v. 6, no. 7, 1964,  
1267-1271

TOPIC TAGS: polymeric chelate, thiamide pyridine derivative,  
polythiamide pyridine derivative, Cu, Ni, Co, Zn, polymeric chelate  
property, chelate group structure

ABSTRACT: The properties of the following Cu-, Ni-, Co-, or Zn-  
containing polymeric chelates have been studied.

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The polymers are fine, colored amorphous powders which are soluble only with difficulty. They dissolve most readily in dimethyl-formamide, chloroform, and benzene; the best solubility is exhibited by polymers with methoxy groups in the backbone. The polymers are attacked by acids but are resistant to alkalis. They lose 5-15% of their weight on heating to 200°C and 20-80% on heating to 400°C. Comparative studies showed that polymers with a higher solubility have a lower chemical and thermal stability. The density of polymeric chelates varies from 1.27 to 1.60. They are dielectrics at room temperature; at 383K the highest electrical conductivity ( $10^{-10}$  to  $10^{-11} \text{ ohm}^{-1} \text{ cm}^{-1}$ ) is exhibited by Cu-containing polymers. Catalytic properties are inherent only in Cu-, Ni-, and Co-containing polymers. Their catalytic activity surpasses by two orders of magnitude that of inorganic Cu semiconductors. The nature of the band in the chelate group, as determined from x-ray absorption spectra, is =C-S-Me.  
Orig. art. has: 3 tables.

ASSOCIATION: Moskovskiy gosudarstvenny\*y universitet im M. V. Lomonosova (Moscow State University)

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